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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,396	11/05/2001	Takashi Tanimoto	10449-038001	4433

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FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER	
JELINEK, BRIAN J	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,396	TANIMOTO, TAKASHI	
	Examiner	Art Unit	
	Brian Jelinek	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 05 November 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/6/2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is a first office action in response to application no. 10/010,396 filed on 11/5/2001 in which claims 1-8 are presented for examination.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (U.S. Pat. No. 5,692,025).

Regarding claim 1, Sato et al. teaches a voltage boost system comprising: a load device (Fig. 2, element 1) including a pair of terminals (Fig. 2, element 1, terminals VH +15V and CO); a power supply for generating a first potential (Fig. 2, element 6, VH +15V); and a voltage booster (Fig. 2, elements 16 and 17) connected to the power supply for generating a second potential (Fig. 2, Vsub) by boosting the first potential (col. 5, lines 7-14), wherein the second potential is provided to one of the pair of the terminals of the load device (Fig. 2, element 1,

terminal CO), and the first potential is provided to another one of the pair of the terminals of the load device (Fig. 2, element 1, terminals VH +15V).

Regarding claim 2, Sato et al. teaches the load device is provided with an offset voltage functioning as the first potential (Fig. 2, element 1, terminals VH +15V).

Regarding claim 3, Sato et al. teaches the voltage booster includes a charge pump circuit operated based on a clock signal (col. 5, lines 7-14).

Regarding claim 4, Sato et al. teaches the first potential (Fig. 2, element 6, VH +15V) is greater than a ground potential.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (U.S. Pat. No. 5,692,025) in view of Milwada (U.S. Pat. No. 5,524,036).

Regarding claim 5, Sato et al. teaches an image sensing apparatus comprising: a solid-state image sensing apparatus for accumulating charges in correspondence with an object image and transferring the accumulated charges (Fig. 2, element 1); a drive circuit (Fig. 2, element 9) connected to the solid-state image sensing apparatus for driving the solid-state image sensing apparatus so that the solid-state image sensing apparatus accumulates charges for a

predetermined time and transfers the accumulated charges; an output circuit connected to the solid-state image sensing apparatus for generating an image sensing signal from the charges transferred by the solid-state image sensing apparatus (Fig. 2, OUT); a power supply for generating a first potential (Fig. 2, element 6, VH +15V); and a voltage booster (Fig. 2, elements 16 and 17) connected to the power supply for generating a second potential (Fig. 2, element Vsub) by boosting the first potential (col. 5, lines 7-14). Sato et al. does not teach the output circuit has a pair of terminals wherein one of the pair of the terminals is provided with the second potential of the voltage booster, and another one of the pair of the terminals is provided with the first potential of the power supply.

However, Milwada teaches resetting an output circuit of a CCD transfer register where the output circuit comprises a first terminal (Fig. 8, element 51, Vb) and a second terminal (Fig. 8, element 22). Furthermore, Milwada teaches the power supply is provided to the first terminal and a boosted voltage (Vg) from a voltage generator (Fig. 8, element 23) is provided to the second pair of terminals. One of ordinary skill in the art would have reset an output circuit of a CCD transfer register in order to prevent charge mixing from subsequent charge transfers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have reset an output circuit of a CCD transfer register in order to properly reset an output CCD charge transfer register to prevent charge mixing from subsequent charge transfers. Furthermore, one of ordinary skill in the art would have provided a charge pump, as taught by Sato et al., for the voltage generator taught by Milwada in order to generate the 12 volt Vg signal (col. 6, lines 18-21) from a 5 V power supply (col. 5, lines 66-67). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provided a charge

pump for a voltage generator in order to boost a 5 V power supply to a 12 volt signal in order to reset the output circuit for a CCD transfer register.

Regarding claim 6, Sato et al. teaches a solid-state image sensing apparatus comprising a charge pump where the booster circuit is operated synchronously with the vertical transferring of charge within the CCD (col. 5, lines 55-62). Sato et al. does not teach the solid-state image sensing apparatus comprises a horizontal scanning period or a vertical scanning period, and the voltage booster performs a boost operation during a blanking period in the horizontal scanning period or the vertical scanning period.

However, Official Notice is given that it is well known in the art to reset a CCD image sensor in order to prevent charge mixing from subsequent charge transfers during a blanking period in the horizontal scanning period or the vertical scanning period in order not to disrupt the reading of the CCD. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform a boost operating during a blanking period in the horizontal scanning period or the vertical scanning period in order to reset a CCD image sensor without disrupting the reading of the CCD.

Regarding claim 7, Sato et al. teaches the voltage booster includes a charge pump circuit operated based on a clock signal (col. 5, lines 7-14).

Regarding claim 8, Sato et al. teaches the first potential (Fig. 2, element 6, VH +15V) is greater than a ground potential.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is (703) 305-4724. The examiner can normally be reached on M-F 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Jelinek
11/29/2004

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600